

REMARKS

I. Preliminary Matters

Claims 1-16 are pending in the application. Of these, claims 1, 7-9, 15 and 16 are rejected, and claims 2-6 and 10-14 are objected to.

II. Claim Objections

Claims 1, 2, 5, 9, 10 and 13 are objected to because of the following informalities: applicant has changed the “second received signal” to “third received signal” and vice versa without changing the status identifiers. Appropriate correction has been made and as such the Applicant respectfully requests the objection to be removed.

III. Claim Rejections Under 35 U.S.C. § 103

Claims 1, 7-9, 15 and 16 are rejected under 35 U.S.C. § 103(a) as being unpatentable over Applicant’s admitted prior art (background of invention) and Fuji (U.S. Publication No. 2002/0181557), further in view of Lilleberg et al (U.S. Patent No. 5,905,946). The Applicant respectfully traverses the rejection.

Claim 1 recites, *inter alia*, a channel estimation apparatus comprising:

“a second estimating unit for estimating a second multi-path by applying a second threshold value to the correlation function of the second received signal in which the correlation noise has been removed.”

The Examiner concedes the Applicant’s background of the invention and Fuji do not disclose having a second threshold value to the correlation function of the second received signal in which the correlation noise has been removed (Office Action, page 4). The Examiner further admits that Lilleberg does not disclose the estimation being performed by applying a second threshold to the correlation function (Office Action, page 4). The Examiner alleges it is well known from the primary reference that the estimation might be performed by applying a second

threshold to the correlation function (Office Action, page 4-5). However, the Applicant respectfully disagrees with the Examiner.

The complex interaction of elements in claim 1 including the “applying a second threshold value to the correlation function of the second received signal” would not have been obvious. This second threshold value is applied to the correlation function of the second received signal obtained in the correlation noise removing unit. While the primary reference may disclose in Table 1 different PN sequence lengths for different maximum correlation noise values, it does not disclose “applying a second threshold value to the correlation function of the second received signal” (Specification, page 2-3). Furthermore, Table 1 does not disclose the existence of more than one threshold value.¹ These features are not disclosed in any combination of the references and it is highly unlikely this creation of the correlation function of the second received signal obtained, in part, from a first multi-path and a correlation function of a first received signal would have been obvious to one of ordinary skill in the art.

Therefore, claim 1 is patentable.

Claims 7-8 is patentable for at least the same reasons as claim 1. Claim 9 recites analogous limitations and is patentable for analogous reasons. Claims 15 and 16 depend from claim 9 and are patentable for at least the same reasons as claim 9.

IV. Allowable Subject Matter

Claims 2-6 and 10-14 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base

¹ Since the maximum correlation noise according to the length of the PN sequence is as shown in Table 1, the predetermined threshold value should be larger than the values shown in Table 1 (Specification, page 3).

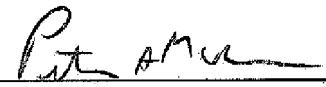
claim and any intervening claims. Applicant respectfully requests the Examiner to hold the rewriting of the allowed claims in abeyance until arguments presented with respect to the pending claims have been reconsidered.

V. Conclusion

In view of the above, reconsideration and allowance of this application are now believed to be in order, and such actions are hereby solicited. If any points remain in issue which the Examiner feels may be best resolved through a personal or telephone interview, the Examiner is kindly requested to contact the undersigned at the telephone number listed below.

The USPTO is directed and authorized to charge all required fees, except for the Issue Fee and the Publication Fee, to Deposit Account No. 19-4880. Please also credit any overpayments to said Deposit Account.

Respectfully submitted,


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